Holoschkuhria, a new genus of the Hymenopappinae (Helenieae) from Peru

HAROLD ROBINSON
Botany, National Museum of Natural History
Smithsonian Institution
Washington, D. C., 20560-0166, USA

Abstract

A new genus and species, *Holoschkuhria tetramera* H. ROB., is described from northern Peru.

Introduction and Discussion

Over the years, northern Peru has proven to be one of the most floristically interesting areas for collections of Asteraceae. It is not unusual to receive material of rarely collected older species and material of new species or genera. Examples of such recently recollected rarities from the same lot as the new genus are *Ayapanopsis mathewsii* (B. L. ROB.) R. M. KING & H. ROB. (CAMPOS et al. 4286; RODRIGUEZ & CAMPOS 1822), *Badilloa procera* (B. L. ROB.) R. M. KING & H. ROB. (CAMPOS 5204), *Mutisia wurdackii* CABRERA (VASQUEZ & CAMPOS 25359, 25410), *Paranephelius jelski* (HIERON.) H.ROB. & BRETTELL (CAMPOS 5020), *Pentacalia tilletii* H.ROB. & CUATREC. (DIAZ 8813; VASQUEZ & CAMPOS 25481) and *Schizotrichia eupatorioides* BENTH. (VAN DER WERFF et al. 14816), all at MO and US.

The genus and species described in the present paper represents a particularly interesting novelty. While some novelties are not unexpected, the present example is odd because of the group of the Heliantheae–Helenieae to which it belongs and the combination of characteristics that it shows. The subtribe Hymenopappinae is concentrated in drier parts of the western United States and Mexico. The only significant element in South America is the genus *Villanova* LAG. with triangular achenes and deeply divided leaves. Even allowing for possible artificiality of the non-striated achene distinction of the Hymenopappinae, possible relatives in the Chaenactidinae are limited. *Schkuhria* ROTH, with striations in the achene walls, has similar corolla form and often a similar pappus with only scales, but the leaves are dissected and not always opposite. The new plant has leaves superficially like *Florestina* CASS. and *Palafoxia* LAG.; the leaves of the latter are strictly alternate and the corollas are larger, fleshier, and with deeply cut lobes. One further problem is the 4

corolla lobes and anthers. That number is characteristic of the related subtribe Peritylinae, and is usually used as a key character for that subtribe. The new genus has the number, but it also has few very broad obovate involucral bracts as in the Hymenopappinae and many Chaenactidinae, and it is definitely not a member of the Peritylinae.

The plant recently received from Peru seems to belong to a group mostly found in arid or waste places, but it is cited from primary forest. It relates to mostly North American genera, but has apparently been established in a restricted part of northern Peru for long enough to be totally distinct. Finally, the entity is rare enough or sufficiently narrowly endemic to have gone unnoticed until now. It is with some uneasiness that the plant is named here as a new genus and species.

The name of the genus reflects the limited resemblance in floret structure and opposite leaves to the widely distributed *Schkuhria*. The prefix "holo" refers to the large entire undissected leaf blades. The species name refers to the 4-merous florets.

Because of recent DNA results (Jansen & Kim 1996), the Helenieae has been resurrected at the tribal level. The concept of the resurrected Helenieae accepted here is of the distinctive group envisioned within the Heliantheae in Robinson (1981). The included subtribes are Madiinae, Hymenopappinae, Peritylinae (including the Lycapsinae), Baeriinae, Chaenactidinae and Gaillardiinae.

Description

***Holoschkuhria tetramera* H. Rob., gen. et sp. nov.**

Type: Peru. Dpto. Amazonas: Prov. Luya. Camporredondo, Localidad Jaipe, bosque primario, 06°09′07"S, 78°21′05"W, 2050 m, 26 Mar 1997, Campos, Campos & Sembrera 3654 (holotype US, isotype MO). – Fig. 1.

Herbaceae 0.5 m altae pauce ramosae; caules brunnescentes teretes costatae in pilis minutis stipitate glanduliferis dense obtectae. Folia opposita, petiolis plerumque 1.3–2.5 cm longis dense stipitate glanduliferis; laminae oblongo-ovatae 4–6 cm longae 1.2–2.2 cm latae base breviter acutae vel vix acuminatae margine integrae minute stipitate glanduliferae apice obtusae supra et subtus dense velutine puberulae et distincte glandulo-punctatae, nervis subtrinervatis, nervis secundariis ascendentibus in binis duplicitis prope basem et prope mediam. Inflorescentiae late thyrsoideae in ramis et ramulis oppositae; bracteis inferioribus foliiformibus; ramis et ramulis in glandulis stipitatis minutis dense obtectis, pedunculis 4–11 mm longis puberulis vel stipitato-glanduliferis. Capitula ca 6 mm alta 7–9 mm lata; bracteae involucri ca. 7 obovatae ca. 4.5 mm longae ca. 3 mm latae, 1 aut 2 exteriores oblongae angustiores, bracteae interiores apice obtusae pallidiores tenuiores extus dense puberulae et min

ute glandulo-punctatae; receptacula epaleacea glabra. Flores ca. 25 in capitulo; corollae albae 3.5 mm longae, tubis ca. 1.3 mm longis constrictis base latioribus, tubis supra basem et faucibus base in glandulis stipitatis puberulis, faucibus abrupte late campanulatis ca. 0.7 mm longis, lobis 4 laxe patentibus ca. 1 mm longis et 0.8 mm latis intus leniter mamillosis extus laevibus dense glandulo-punctatis subapice saepe unipilosis, ductis resiniferis flavidis in faucibus secus nervum solitariis in lobis distincte intramarginalibus; antherae 4, thecae obscure brunnescentes ca. 1 mm longae, base breviter hastatae, cellulis endothecialibus in parietibus tranversalibus binodatis; appendices antherarum pallidae ovatae extus concavae multo glanduliferae; basi stylorum glabri; rami stylorum in lineis stigmaticis binis, apice acute sensim anguste acuminatae antrorse pilosulis. Achenia anguste cuneata ca. 3 mm longa 4-costata dense setulifera base attenuata in pleuribus non striata, setulis apice leniter clavatis; squamae pappi 8 oblongae ca. 2 mm longae et 0.7 mm latae ad medio late costatae margine irregulariter fimbriatae. Grana pollinis ca. 25 µm in diametro.

Herbs 0.5 m high, sparingly branched; stems brownish, terete, costate, densely covered with felt of minute stipitate glands. Leaves opposite, petioles narrow, mostly 1.3–2.5 cm long, covered with stipitate glands; leaf blades oblong-ovate, 4–6 cm long, 1.2–2.5 cm wide, base shortly acute to scarcely acuminate, margins entire, with fringe of stipitate glands, upper and lower surfaces densely velutinous, with distinct glandular punctations, with 2 pairs of ascending secondary veins, near base and near middle. Inflorescence broadly thyrsoid, with opposite branches and branchlets, branches covered with stipitate glands; peduncles 4–11 mm long, puberulous or with stipitate glands. Heads broadly campanulate, ca. 6 mm high, 7–9 mm wide; involucral bracts ca. 7, mostly obovate, ca. 4.5 mm long, ca. 3 mm wide, apices obtuse, with narrow, thin, pale apical margin, outside densely puberulous with minute glandular dots, 1 or 2 outer bracts oblong, narrower; receptacle flat or slightly convex, without pales, glabrous. Florets ca. 25 in a head; corollas white, 3.5 mm long, basal tube ca. 1.3 mm long, broad at base, constricted above, tube above base and base of throat puberulous with stipitate glands, throat broadly and rather abruptly campanulate, ca. 0.7 mm long, lobes 4, oblong-ovate, laxly spreading, ca. 1 mm long and 0.8 mm wide, slightly mamillose inside, outside smooth, densely covered with sessile glands, often with short non-glandular hair near apex, resin ducts mostly yellowish, solitary along veins of throat, distinctly intramarginal in lobes; anthers 4, thecae slightly brownish, short hastate at base, endothecial cells with tranverse walls binodate; apical appendage ovate, yellowish, concave outer surface with cluster of many glands; style base glabrous, branches with paired stigmatic lines, apices acute and abruptly narrowly acuminate, with brush of hairs near tip on margins and back. Achenes narrowly cuneate, ca. 3 mm long, 4-costate, sides densely setuliferous, setulae with shortly divided and usually slightly broadened clavulate tips, sides

weakly blackened without striae, base narrow and attenuate. Pappus of 8 oblong squamae, each squama ca. 2 mm long and 0.7 mm wide, with broad yellowish median costa and pale irregularly fringed margins. Pollen grains ca. 25 µm in diameter.

Holoschkuhria peruviana is presently known only from the type collection. It is always possible that other specimens have been seen by other botanists and have been put aside because of the confusing mixture of characteristics. It is also possible that the taxon has been named as a member of some genus in which it does not belong, but nothing likely was seen in a reading of the recent catalogue of the *Flowering Plants and Gymnosperms of Peru* (Brako & Zarucchi 1993) nor in the *Catalogue of the Vascular Plants of Ecuador* (Jørgensen & León-Yánez 1999).

Acknowledgement

Alice Tangerini of the Botany Department, Smithsonian Institution, is thanked for the illustration of the new genus and species.

References

Brako, L. & J. L. Zarucchi 1993. *Catalogue of the Flowering Plants and Gymnosperms of Peru.* Monographs in Systematic Botany, Missouri Botanical Garden 45:i–xlii, 1–1286.

Jansen, R. K. & K.-J. Kim 1996. *Implications of chloroplast DNA data for the classification and phylogeny of the Asteraceae. In:* Hind, D. J. N. & H. J. Beentje (eds.), *Compositae: systematics.* Proceedings of the International Compositae Conference, Kew, 1994. Vol. 1, pp. 317–339. Royal Botanic Gardens, Kew.

Jørgensen, P. M. & S. León-Yánez 1999. *Catalogue of the Vascular Plants of Ecuador.* Monographs in Systematic Botany, Missouri Botanical Garden 75:i–viii, 1–1181.

Robinson, H. 1981. *A revision of the tribal and subtribal limits of the Heliantheae (Asteraceae).* Smithsonian Contributions to Botany 51:i–iv, 1–102.

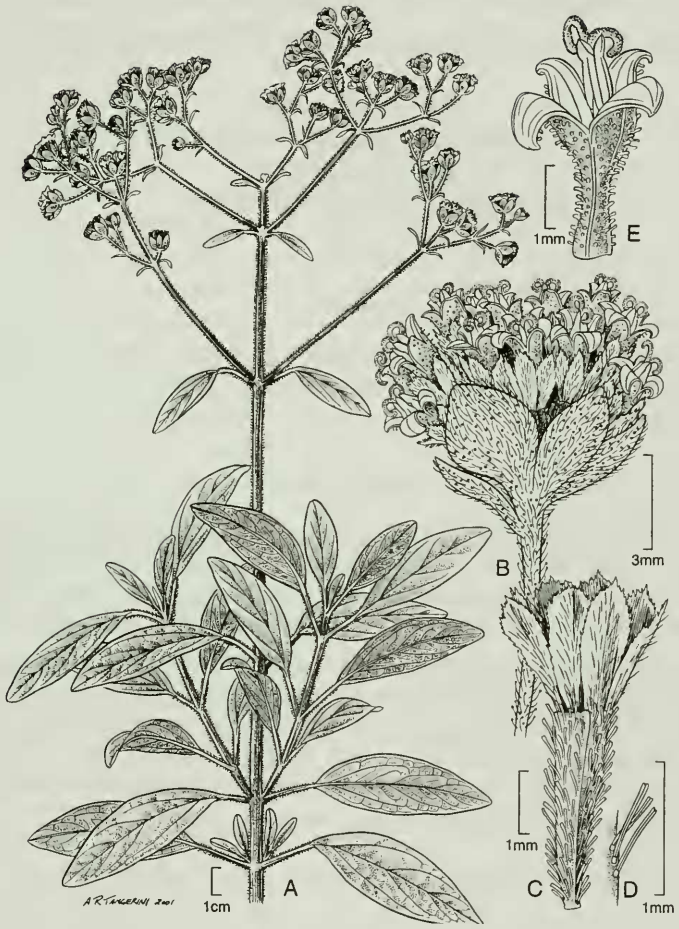

Fig. 1. ***Holoschkuhria tetramera*** **H. Rob.**
A. Habit.
B. Head.
C. Achene with four angles.
D. Setulae or biseriate hairs of achene.
E. Corolla with four lobes.